

Lesson 1: Reading and Speaking: Revisiting a Paleontologist's Work



CCS Standards

- **SL.2.1:** Participate in collaborative conversations with diverse partners about *grade 2 topics and texts* with peers and adults in small and larger groups.
- **SL.2.1a:** Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
- **SL.2.1b:** Build on others' talk in conversations by linking their comments to the remarks of others.
- **RL.2.1:** Ask and answer such questions as *who, what, where, when, why, and how* to demonstrate understanding of key details in a text.



Daily Learning Targets

- I can answer questions about paleontologists using key details in the text *The Maiasaura Dig: The Story of Dr. Holly Woodward Ballard*. (RL.2.1)
- I can use discussion norms to participate in a discussion about paleontologists. (SL.2.1, SL.2.1a, SL.2.1b)
- During Work Time, monitor students' general understanding of the read aloud of *The Maiasaura Dig: The Story of Dr. Holly Woodward Ballard*.

Ongoing Assessment

- During the Closing, observe if students are able to reflect on the characteristics of effective learners and consider how they might show these characteristics when they write a narrative.

Agenda

1. Opening

- A. Engaging the Learner: Mystery Journal Entry #3 (15 minutes)

2. Work Time

- A. Reading Aloud: *The Maiasaura Dig: The Story of Dr. Holly Woodward Ballard*, Entire Text (15 minutes)
- B. Musical Mingle: Reviewing What We Have Learned about Paleontologists (20 minutes)

2. Closing and Assessment

- A. Think-Pair-Share: Working to Become Effective Learners (10 minutes)

Teaching Notes

Purpose of lesson and alignment to standards:

- This lesson introduces the focus of Unit 3: for students to use their knowledge of literary texts (gained in Unit 1) and their knowledge about fossils and paleontologists (gained in

Unit 2) to compose a compelling narrative about discovering a fossil. During Work Time A, students hear a read-aloud from *The Maiasaura Dig: The Story of Dr. Holly Woodward Ballard*. This text tells the story of a paleontologist, Holly Woodward Ballard, who is determined to discover a tiny *Maiasaura* fossil. Students will focus on one excerpt entitled “The Search for the Tiniest Bones” in Lessons 2-4 as a model of a compelling narrative.

- During Work Time B, students participate in the Musical Mingle protocol. Consider how familiar students are with this protocol and reallocate class time spent introducing it as necessary.
- In this lesson, the habit of character focus is on working to become an effective learner. In the Closing, students reflect on all characteristics of effective learners both to synthesize their experience with these habits and to consider how they might be used while working to complete the performance task in Unit 3.

How this lesson builds on previous work:

- During the Opening, students revisit the paleontologist’s mystery journal entry and hear the final entry read aloud. Students also view photo clues #1 and #2, from Units 1 and 2, adding to them the final photo clue to reveal a complete photo. The true story of the fossil discovery behind these clues is revealed.
- During Work Time B, students draw on their knowledge of fossils and paleontologists from Units 1 and 2 to participate in the Musical Mingle protocol.
- Continue to use Goal 1-3 Conversation Cues to promote productive and equitable conversation.
- Areas in which students may need additional support:
- For some students, synthesizing and discussing information gathered from Units 1 and 2 may present a challenge. Consider allowing those students to reference their Paleontologist’s notebook as extra support during the Musical Mingle protocol.

Teaching Notes

Down the road:

- In Lessons 2–4, students will hear a read-aloud of an excerpt from *The Maiasaura Dig: The Story of Dr. Holly Woodward Ballard*, which will serve as a mentor text for students to study before writing their own compelling narrative about a fossil discovery.

In advance:

- Prepare:
 - Musical Mingle Protocol anchor chart for use during Work Time B (see supporting materials).
 - Technology necessary to play music during the Musical Mingle protocol.
- Preview the read-aloud of *The Maiasaura Dig: The Story of Dr. Holly Woodward Ballard* in order to familiarize yourself with what will be required of students.
- Review the Musical Mingle protocol. (Refer to the Classroom Protocols document for the full version of the protocol.)
- Post: Learning targets, photo clues #1–3, and applicable anchor charts (see materials list).

Consider using an interactive white board or document camera to display lesson materials.

- Opening: Show students a website to learn more information about the true story behind the mystery journal entries and photo clues: <https://www.bbc.co.uk/news/science-environment-27441156>.
- Work Time B: Record students as they participate in the Musical Mingle protocol to listen to later to discuss strengths and what they could improve on, or to use as models for the group. Most devices (cellphones, tablets, laptop computers) come equipped with free video and audio recording apps or software.

Supporting English Language Learners

Supports guided in part by CA ELD Standards 2.I.A.1, 2.I.B.5, and 2.I.B.6s

Important points in the lesson itself

- The basic design of this lesson supports ELLs by creating excitement for learning via the mystery journal, explicitly outlining discussion protocols, encouraging students to access and apply what they learned from previous units to their current learning, and providing many opportunities for students to orally process their learning.
- ELLs may find it challenging to listen to *The Maiasaura Dig: The Story of Dr. Holly Woodward Ballard* without stopping, especially if they do not understand some of the language used in the text. Encourage students to use the pictures and what they have learned about paleontologists from previous units to help them understand what is happening in the text. Tell them that if they do not understand everything right now, it is okay, assuring them that they will have a chance study this text more in upcoming lessons.

Levels of support

For lighter support:

- Before providing sentence frames or additional modeling during Work Time B, observe student interactions and allow students to grapple. Provide supportive frames and demonstration only after students have grappled with the task. Observe the areas in which they struggle in order to target appropriate support.
- Encourage students to use Conversation Cues with other students to promote productive and equitable conversation and enhance language development.

For heavier support:

- Display, repeat, and rephrase all questions and discussion prompts.

Universal Design for Learning

- **Multiple Means of Representation (MMR):** In the Opening, another mystery journal entry is shared with students. Before the journal entry is read aloud, support comprehension by activating prior knowledge. Consider a brief review of the previous mystery journal entries to highlight relevance and scaffold connections for students. Provide questions visually as well as verbally. (Example: Display questions on chart or board during the discussion of the journal entry.)

- **Multiple Means of Action & Expression (MMAE):** During the Musical Mingle protocol, students share with partners in several rounds of questions. Some students may need support for effective strategy development as they plan and recall their thinking during the protocol. Consider offering time for students to write or sketch their responses before sharing with a partner.
- **Multiple Means of Engagement (MME):** During the Closing, give students specific, positive feedback on their effort and participation for the day. Foster a sense of community and provide options for physical action by inviting students to give themselves a special applause and “kiss” their brains.

Vocabulary

Key:

(L): Lesson-Specific Vocabulary

(T): Text-Specific Vocabulary

(W): Vocabulary Used in Writing

New:

- forklift (T), compelling (T)

Review:

- narrative, paleontology, paleontologists (L)

Materials

- ✓ Mystery journal entry #3 (one to display)
- ✓ Photo clue #3 (one to display)
- ✓ Photo clue #1 (from Unit 1, Lesson 1; one to display)
- ✓ Photo clue #2 (from Unit 2, Lesson 1; one to display)
- ✓ Globe (one to display)
- ✓ Unit 3 Guiding Question anchor chart (one to display)
- ✓ *The Maiasaura Dig: The Story of Dr. Holly Woodward Ballard* (one to display; for teacher read-aloud)
- ✓ Fossils Word Wall (begun in Unit 1, Lesson 8)
- ✓ Tools Paleontologists Use anchor chart (begun in Unit 1, Lesson 10)
- ✓ Famous Paleontologists anchor chart (begun in Unit 1, Lesson 12)
- ✓ Musical Mingle Protocol anchor chart (new; teacher-created; see supporting materials)
- ✓ Working to Become Effective Learners anchor chart (begun in Module 1)

Opening

A. Engaging the Learner: Mystery Journal Entry #3 (15 minutes)

- Invite students to the whole group area.
- With excitement, share with students that you have found a third journal entry.
- Display **mystery journal entry #3**.

- Using a total participation technique, invite responses from the group:
“Who is the author of these journal entries?” (a paleontologist)
“In the first and second journal entry, what did the paleontologist do at the site?” (looked for a place to dig; dug for a fossil; found or discovered a fossil)
- While still displaying the text, read the first paragraph slowly, fluently, with expression, and without interruption.
- Tell students that a *forklift* is a type of machinery that can transport very heavy things.
- Invite students to turn and talk to an elbow partner:
“What happened in this paragraph?” (They tried to lift the bone, but it was too heavy; they wrapped it in plaster; a forklift moved it to a truck.)
- Refocus students whole group and confirm that this paragraph is about getting the fossil ready to move it to the laboratory.
- Draw students’ attention back to the text, and read aloud the second paragraph slowly, fluently, with expression, and without interruption.
- Invite students to turn and talk to an elbow partner:
“What happened in this paragraph?” (They took the bone to the laboratory; they took the plaster off; they discovered it was a huge dinosaur bone.)
- Refocus students whole group and confirm that this paragraph is about moving the fossil to the laboratory and studying it.
- Draw students’ attention back to the text, and read the third paragraph slowly, fluently, with expression, and without interruption.
- Focus students on the third paragraph in the text. Point to the underlined habits of character and reread them: *initiative, perseverance*.
- Using a total participation technique, invite responses from the group:
“How did the paleontologist show initiative?” (went to the site to look for the fossil)
“How did the paleontologist show perseverance?” (continued to search for the fossil, transport it, and study it)
- Draw students’ attention back to the text and reread the last sentence, emphasizing the underlined portion:
“I can’t wait to share this compelling story with other people so they know about this new dinosaur and what it teaches us about earth long ago!”
- Define *compelling* (exerting a strong hold on the attention).
- Tell students that when something is compelling, it gets your attention and keeps it.
- Share that you have a final clue, something that matches the journal entry and the previous photo clues.
- Introduce **photo clue #3**.
- Place **photo clue #1**, **photo clue #2**, and photo clue #3 together so that the full photo is displayed.
- With excitement, reveal that this photo shows a real paleontologist, and this compelling story is actually true!

- Provide the details of the real discovery: Dr. José Luis Carballido and Dr. Diego Pol discovered this fossil in a country called Argentina. It is one of the largest dinosaur bones ever discovered.
- Display the **globe**.
- Explain that a globe shows earth and all of the land and water in it.
- Point to the country of Argentina to show students its location.
- Display the **Unit 3 Guiding Question anchor chart**: “How do authors write compelling narratives?”
- With excitement, share that in this unit students will imagine they are a paleontologist just like the one who wrote these journal entries. Then students will get to write a compelling narrative about discovering a fossil!
- Remind students that the word *narrative* is another name for a story, so a “compelling narrative” is another name for “an attention-grabbing story.”
- Invite students to give a classmate a high-five if they would like to write a compelling narrative.
- Share that now they will hear about another compelling story about a paleontologist.

Meeting Students' Needs

- For students who may need additional support with expression and executive function skills: Before reading mystery journal entry #3, vary options for student response. (Example: Provide index cards with possible responses to questions posed in Think-Pair-Share and whole group settings.) (MMAE)
- For ELLs: Provide visual support for the tools mentioned in the mystery journal entry (*plaster, forklift, pliers, and saw*) and invite students to share the translations of these words in their home languages. Consider embedding these images in the journal.
- For ELLs: Consider reviewing the meaning of the words *initiative* and *perseverance* by referring to the definition on the Working to Become Effective Learners anchor chart.

Work Time

A. Reading Aloud: *The Maiasaura Dig: The Story of Dr. Holly Woodward Ballard*, Entire text (15 minutes)

- Refocus students whole group.
- Direct their attention to the posted learning targets and read the first one aloud:

“I can answer questions about paleontologists using key details in the text *The Maiasaura Dig: The Story of Dr. Holly Woodward Ballard*.”
- Display *The Maiasaura Dig: The Story of Dr. Holly Woodward Ballard*.
- Explain that you will now read a compelling narrative about a real paleontologist, Holly Woodward Ballard. In this text, students will hear a lot of familiar information about paleontologists.

- Invite students to show an agreed-upon gesture (such as snapping fingers or a thumbs-up), whenever they hear a familiar idea about paleontologists or fossils in the text.
- While still displaying the text, read entire text slowly, fluently, and with expression. Pause as needed to ask questions that help clarify general understanding of the text.

Meeting Students' Needs

- Before reading, provide white boards and dry-erase markers as an option for students to record (in drawing or writing) their ideas. This scaffolds active listening and supports students in listening for key details. (MMR, MMAE)
- For ELLs: Check comprehension of the learning target by asking: "What will you answer questions about?" (paleontologists)

"Where will you get the information to answer the questions?" (from details in The Maiana Dig: The Story of Dr. Holly Woodward Ballard)

Work Time

B. Musical Mingle: Reviewing What We Have Learned about Paleontologists (20 minutes)

- Direct students' attention to the posted learning targets and read the second one aloud:
"I can use discussion norms to participate in a discussion about paleontologists."
- Direct students' attention to the following resources and prompt them to silently consider how much they have learned about paleontologists in this module:
 - **Fossils Word Wall**
 - **Tools Paleontologists Use anchor chart**
 - **Famous Paleontologists anchor chart**
- Review the definition of *paleontology* (the study of prehistoric life), confirming that *paleontologists* are people who study prehistoric life.
- Direct students' attention to the **Musical Mingle Protocol anchor chart** and share that they will discuss paleontologists using this new protocol.
- Referring to the Musical Mingle Protocol anchor chart, explain the expectations to students:
 - Point to the image of the person with the thinking cloud. Tell students they will have time to think about the prompt.
 - Point to the image of people moving to music. Tell students that they will dance calmly and quietly to the music, and will have a bit more time to think about the prompt.
 - Point to the image of two people facing each other and talking. Tell students that when the music stops, each student should find a partner close to him or her. One partner shares his or her response while the other partner listens.
 - Point to the image of the people making a tent with their arms. Tell students that once both partners have shared, they should safely make a tent with their arms to show they are done talking.
- Provide students with a prompt, and tell them that they will share their answer with a partner using the Musical Mingle protocol:

“What have you learned about paleontologists from our work in Units 1 and 2?” (Responses will vary, but should include information learned from work in Units 1 and 2.)

- Guide students through the Musical Mingle protocol, using the steps on the Musical Mingle Protocol anchor chart. Use the following prompts for subsequent rounds:

“What happened to Dr. Woodward Ballard so far in this text?” (She loved dinosaurs; she went to college to become a paleontologist; she traveled to the Maiasuara bonebed; she searched for tiny Maiasaura bones to learn more about how they grew from babies to adults.)

“What did you learn about paleontologists from this text?” (Responses will vary, but may include: paleontologists love dinosaurs; paleontologists travel to faraway places; paleontologists go to college; paleontologists use many tools.)

- Refocus students whole group and transition them back to the whole group area.
- Debrief the protocol by inviting students to turn and talk with a partner:

“What did we do well when using this new protocol?” (Responses will vary.)

“What was challenging?” (Responses will vary.)
- If productive, cue students to think about their thinking and provide reasoning:

“What discussion norms helped you succeed in your discussion about paleontologists? I’ll give you time to think and discuss with a partner.” (Responses will vary.)

“Why do you think that?” (Responses will vary.)
- Invite several students to share their responses whole group. As time allows, celebrate any areas of strength and troubleshoot any areas of challenge.

Meeting Students’ Needs

- For students who may need additional support sustaining effort and engagement: Provide options before beginning Musical Mingle. (Example: Consider posting the questions or providing them to students on index cards before the protocol begins.) (MME)
- For ELLs: Display, repeat, and rephrase the question. Ask:

“What have you learned about paleontologists from our work in Units 1 and 2?”

Rephrase the question:

“What is one thing you learned about paleontologists in Units 1 and 2?”
- For ELLs: Invite a few confident students to model the steps of the Musical Mingle protocol with you before inviting all students to participate. This will allow ELLs to make connections between the steps written on the anchor chart and what is expected of them during the protocol.
- For ELLs: As pairs interact, jot down some verb tense errors that are impeding communication. Briefly review the verb tense for the whole class. Encourage the group to identify the verb that communicates the message clearly and accurately.
- For ELLs: Provide sentence frames for student to use to share their thinking during the Musical Mingle protocol. Examples:
 - “One thing I learned about paleontologists from Units 1 and 2 is _____.”
 - “One thing that happened to Holly in this text so far is_____.”
 - “One thing I learned about paleontologists from this text is _____.”

Closing and Assessment

A. Think-Pair-Share: Working to Become Effective Learners (10 minutes)

- Direct students' attention to the **Working to Become Effective Learners anchor chart** and briefly review the definition of each habit of character listed.
- Confirm that great learners must practice each of these habits of character daily, and that you have seen students using these characteristics in their work every day.
- Invite students to Think-Pair-Share with an elbow partner:
 - “How have you used the characteristics of effective learners to learn about fossils and paleontologists?” (Responses will vary, but should be related to activities and tasks completed during Units 1 or 2.)
- If productive, cue students to listen carefully and seek to understand:
 - “Who can tell us what your classmate said in your own words?” (Responses will vary.)
- Remind students that their performance task for this unit will be writing a compelling narrative about discovering a fossil.
- Invite students to Think-Pair-Share with an elbow partner:
 - “How might you use perseverance in this task?” (keep trying when you don't know what to write or how to)
 - “How might you use collaboration?” (read work to writing partner; listen to writing partner when he or she shares; give and take feedback)
 - “How might you use initiative?” (help someone when needed; clean up without being asked)
 - “How might you use responsibility?” (focus on your writing; do your best work; keep your workspace clean)
- Refocus students whole group and preview tomorrow's work: to continue reading a compelling narrative aloud: *The Maiasaura Dig: The Story of Dr. Holly Woodward Ballard!*

Meeting Students' Needs

- During the Think-Pair-Share, support motivation by scaffolding self-assessment with specific feedback to students. (Example: “I hear your ideas for using most of these habits in the narrative task. If you need help with thinking about how you will use collaboration, think back to the work we did with writing partners in our Paleontologist's notebook. I wonder if that will help you think of how you can collaborate again.”) (MME)
- For ELLs: Pair students with a partner who has more advanced or native language proficiency. The partner with greater language proficiency can serve as a model in the pair, initiating discussions and providing implicit sentence frames, for example.